

TECHNICAL REVIEW DOCUMENT FOR RENEWAL OF OPERATING PERMIT 96OPBO174

to be issued to:

University of Colorado at Boulder, Williams Village
Boulder County
Source ID 0130019

Prepared by Cathy Rhodes
November, 2002

1. Purpose

This document will establish the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered by the renewal Operating Permit proposed for this site. The original operating permit was issued December 1, 1998 and expires on December 1, 2003. This document is designed for reference during review of the proposed permit by the EPA, the public, and other interested parties. The conclusions made in this report are based on information provided in the renewal application submitted July 22, 2002. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

2. Source Description

The University of Colorado (CU) at Boulder consists of a Power House, a service building, a heating plant for a dormitory known as Williams Village, and miscellaneous insignificant activities around campus. CU requested separate Operating Permits for the Power House and the heating plant for Williams Village. The service building is classified as an insignificant source of emissions. The heating plant at Williams Village generates steam for use in heating and air conditioning using two water tube boilers. The boilers have the capability to fire either natural gas or No. 2 fuel oil and share a common exhaust stack.

The facility is located at 600 30th Street in Boulder, Colorado. The area in which the plant operates is designated as attainment/maintenance for carbon monoxide (CO), particulate matter less than 10 μm (PM₁₀) and ozone. There are no affected states within 50 miles of the plant. The Federal Class I designated areas within 100 kilometers of the plant are Rocky Mountain National Park, Rawah Wilderness Area, and Eagle's Nest.

Facility wide emissions for pollutants of concern, Nitrogen Oxides (NO_x), Carbon Monoxide

(CO), Volatile Organic Compounds (VOC), Sulfur Dioxide (SO₂), Particulate Matter (PM), Particulate Matter less than 10 microns (PM₁₀), and Hazardous Air Pollutants (HAPs) are as follows:

<u>Pollutant</u>	<u>Potential Emissions¹ (tpy)</u>	<u>Potential Emissions² (tpy)</u>	<u>Actual Emissions (tpy)</u>
NO _x	33.1	46.8	4.13
CO	27.8	11.7	1.03
VOC	1.82	4.68	0.08
SO ₂	0.20	505.5	0.06
PM	2.51	4.68	0.40
PM ₁₀	2.51	2.34	0.40
HAPs	0.62	Negligible	Negligible

¹Boilers B001 and B002 burning natural gas at 1000 Btu/scf

²Boilers B001 and B002 burning No. 2 Fuel Oil (at 144,000 Btu/gal and 0.39% sulfur)

Facility wide potential emissions and actual emissions are based on data submitted with the Title V application and Air Pollution Emission Notices (APENs) on file with the Division.

This facility along with the Power House on the main campus are considered a single source for NSR purposes. Potential emissions and actual emissions for the Power House and the heating plant at Williams Village are as follows:

<u>Pollutant</u>	<u>Potential Emissions (tpy)</u>	<u>Actual Emissions (tpy)</u>
NO _x	296.8	120.13
CO	117.8	19.10
VOC	67.3	0.11
SO ₂	562.2	0.64
PM	28.9	0.45
PM ₁₀	26.7	0.44
HAPs	0.62	0.62

3. Discussion of Modifications Made

Source Requested Modifications

The source did not request any changes to the permit in their renewal application.

During the Public Notice Period, the source requested the following modifications: Responsible official and permit contact person are changed. (Cover Page)

Section II, Condition 1.1 is corrected to require annual PM emission calculations.

Section II, Condition 2 – Emission factor for VOC is revised to reflect current AP42 factor.

Section II, Condition 2.1 equation is revised to require annual emission calculations (not

monthly).

Section II, Conditions 2.6 and 2.7 – Opacity monitoring provisions for fuel oil use are revised to correspond to requirements in other similar operating permits issued by the Division.

Section III – Permit Shield – The permittee requested the shield for the MACT standards. The facility (including the Power House) is a minor source of HAP emissions, therefore MACT provisions do not apply.

Other Modifications

Although the source did not request any changes to their permit in their renewal application, the Division has included changes to make the permit consistent with recently issued permits, to include comments made by the EPA on other Operating Permits, to reflect updated and current Regulatory language, as well as to correct errors or omissions identified during review of this renewal.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments, to the Williams Village Operating Permit:

Page following Cover Page

The citation (above “issued to” and “plant site location”) provided the incorrect title for the state act. The title is changed from “Colorado Air Quality Control Act” to “Colorado Air Pollution Prevention and Control Act.” In addition, the date references are removed.

The dates for monitoring and compliance periods are clarified, i.e. changed from “December – May” to “December 1 – May 31.” Monitoring and compliance periods and report and certification due dates are shown as examples. The appropriate monitoring and compliance periods and report and certification due dates will be filled in after permit issuance and will be based on permit issuance date. Note that the source may request to keep the same monitoring and compliance periods and report and certification due dates as were provided in the original permit. Nevertheless, it should be noted that with this option, depending on the permit issuance date, the first monitoring period and compliance period may be short (i.e., less than 6 months and less than 1 year).

A Note regarding when reports will be considered to have met the date due deadline is added.

Section I

Condition 1.1 is revised to reflect the new attainment status for the area.

Condition 1.4 is revised to reflect new Condition numbers for Section IV conditions.

Condition 1.5 is revised to reflect the renumbering of the cited condition to Section IV, Condition 22.

Condition 3 is added to reflect the PSD status of the source. Subsequent conditions in Section 1 are renumbered.

Condition 4 is revised based on comments by the EPA on other operating permits, the phrase “Based on information provided by the applicant” is added to the beginning of Condition 3.

Condition 6 is added for compliance assurance monitoring provisions. No emission points at this facility use a control device to achieve compliance with an emission limitation or standard.

Section II

Emission factors for natural gas combustion in the original permit were based on AP-42, Section 1.4, March 1998. The EPA updated this section in July, 1998, however the emission factors for these size boilers did not change (factors are adjusted for a heating value of 1000 Btu/scf).

Emission factors for fuel oil combustion in the original permit were based on AP-42, Section 1.3, 1996. The EPA updated this section in 1998, however, the emission factors for these size boilers did not change.

Language is added to all relevant conditions requiring records to be maintained for Division inspection upon request.

Condition 1.4 – The word “credible” is inserted prior to the word “evidence.”

Conditions 1.2, 2.1 and 2.2 – Language is added to indicate that, absent credible evidence to the contrary, compliance with the emission limits is assumed when Natural Gas, or No. 2 fuel oil is used.

Condition 2.3 – Based on EPA comments on other Operating Permits, the word “determine” (compliance) is replaced with “monitor.”

Conditions 1.4, 2.6 and 2.7 – Opacity language is revised to reflect the most current Regulation No. 1 language. In addition, language regarding when non-compliance with the standards occur is added, to reflect current Division policy. (Condition 1.5 is added to reflect the 30% opacity limit requirements.)

Section III – Permit Shield

The Title for Condition 1 is changed from “Specific Conditions” to “Specific Non-Applicable Requirements.”

Based on comments made by the EPA on another permit, the following statements

were added after the introductory sentence in Condition 1. “This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance. In addition, this shield does not protect the source from any violations that occur as a result of any modification or reconstruction on which construction commenced prior to permit issuance.”

Based on comments made by the EPA on another permit, the following phrase is added to the beginning of the Condition 1 introductory sentence. “Based upon the information available to the Division and supplied by the applicant...”

Section IV – General Conditions

Add Common Provisions requirements as Condition 3. (All subsequent conditions are renumbered)

Insert “and” between the Regulation No. 2 and the C.R.S. citations in Condition 4.

Update Fee Regulation Cites for Condition 8. In addition, references to specific identification of a fee (i.e., \$100 APEN fee) or citation of Regulation No. 3 is removed and replaced with more general language, since the specific fee amounts may change.

Update Odor Regulation Cite for Condition 14.

Update the Open Burning Regulation cite for Condition 17.

Condition 21 citation of the next general condition is revised to reflect new general condition numbers. (changed from “21.d” to “22.d”)

Appendices

First Page of Appendices – The titles of Appendices B and C are revised. The phrase “except as otherwise provided in the permit” is added after the word “enforceable” in the disclaimer at the request of the EPA.

Appendices B and C are replaced with the Division’s current reporting formats.

The EPA addresses in Appendix D are updated.